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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/333,564	06/21/1999	NANCY F. DEAN	34806/VGG/J1	4248

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EXAMINER

JUSKA, CHERYL ANN

ART UNIT	PAPER NUMBER
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1771

21

DATE MAILED: 04/19/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	09/333,564	DEAN ET AL.	
	Examiner	Art Unit	
	Cheryl Juska	1771	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 October 2001.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 32-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 32-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____  |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                          | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>20</u> . | 6) <input type="checkbox"/> Other: _____                                    |

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## **DETAILED ACTION**

### ***Response to Amendment***

1. Amendment C, submitted as Paper No. 19 on October 31, 2001, has been entered. New claims 49 and 50 have been added. Thus, the pending claims are 32-50.
2. Amendment C and the accompanying arguments are sufficient to withdraw the art rejections based upon Pinter as set forth in sections 3-5 of the last Office Action.

### ***Claim Rejections - 35 USC § 112***

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 49 and 50 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. New claims 49 and 50 limit the combined thickness of the encapsulant and the support material. The specification as originally filed does not disclose such limitations to the combined thickness. At page 8, lines 25-31, a thickness of the uncured gel encapsulant is taught with respect to the fiber length, wherein said gel thickness is 85% of the fiber length (i.e., 0.017/0.020). However, this disclosure does not mention a thickness of the encapsulant *and support material combined*. Nor does this disclosure teach the presently

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claimed “*beyond one end* of the individual lengths of the plurality of fibers” or “*at least approximately 85%.*”

In support of new claim 49, Applicant asserts that Figure 2, teaches the “support material and encapsulant extending beyond one end of fibers.” The basis for this statement is unclear to the Examiner since Figure 2 is interpreted as supporting Applicant’s alternate claim limitations that the average length of the fibers is greater than the average thickness of encapsulant (i.e., fiber ends are at or above the surface of the encapsulant), rather than as now asserted (i.e., encapsulant above fiber ends). With respect to claim 50, Applicant asserts the teaching of a 0.02” fiber and encapsulant thickness of 0.017” is sufficient disclosure for “at least approximately 85%.” However, the disclosure only teaches one exemplary situation. There is no teaching whatsoever that this 85% be a minimum value. Therefore, claims 49 and 50 are rejected as containing new matter.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claim 49 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 49 limits the “encapsulant and support material to having a combined thickness “*encapsulating beyond one end* of the individual lengths of the plurality of fibers.” It is unclear what Applicant means by this limitation. First, what is meant by the phrase “beyond one end of the individual length of the plurality of fibers?” Does Applicant mean a length beyond one end of said fiber (e.g., a length greater than the length of said fiber)? Secondly, how

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can a thickness be “encapsulating?” And, thirdly, how can the encapsulant encapsulate the fiber ‘beyond the length of the fiber?’ What is it encapsulating at this point?

***Claim Rejections - 35 USC § 103***

7. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

8. Claims 32-48 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Koon ‘548 in view of Koon ‘707 as set forth in section 7 of the last Office Action.

***Response to Arguments***

9. Applicant's arguments filed with Amendment C have been fully considered but they are not persuasive, with respect to the 103 rejection based upon the Koon patents. Applicant does not amend the claims in an attempt to overcome the Koon prior art, but rather merely traverses the rejection.

Specifically, Applicant argues that Koon ‘707 teaches an encapsulant which is thicker than the flocked fibers are long (Amendment A, page 4, line 11-page 5, line 1). In response, it is argued that the fiber structure (i.e., interdigitated) of Koon ‘707 is not relied upon for the above rejection. Rather, Koon ‘707 is relied upon for its teaching of encapsulants to enhance a conductive pathway between a heat-producing material and a heat-dissipating material by providing a higher conductivity than air circulating around flocked fibers. Thus, the length of the flocked fibers of Koon ‘707 vs. the thickness of the encapsulant is irrelevant to the standing rejection. It is maintained that it would have been obvious to one skilled in the art to add an

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encapsulant as taught by Koon '707 to the flocked fiber heat transfer structure of Koon '548 with the expectation of increasing the productivity of said heat transfer structure.

Applicant also argues that the addition of an encapsulant to the flocked fibers of Koon '548 would destroy the intended purpose of the Koon '548 invention, in that the amount of fiber length exposed to gas flow would be decreased and thus the heat transfer rate would decrease (Amendment C, page 5, 1<sup>st</sup> paragraph). In response, it is asserted that the addition of an encapsulant to the Koon '548 would not destroy the invention in that the encapsulant merely replaces the circulating gas. As such, the considerations of fiber length, diameter, and density would still be relevant. In other words, Koon's teaching that fiber length be increased within practical limits is still applicable to encapsulated fibers, in that the increase in fiber length increases the effective heat transfer surface area (i.e., surface area of the fiber). Thus, Applicant's argument is found unconvincing and the Examiner's position that one would have been motivated to add an encapsulant to the fiber structure of Koon '548 in order to increase heat transfer is maintained.

With respect to Applicant's assertion that neither of the Koon references teach the present limitation of an average fiber length greater than an average encapsulant thickness (Amendment C, page 5, line 19-page 6, line 10), it is first noted that one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Secondly, it is asserted that although neither reference individually teaches said limitation, the combination of references inevitably does.

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Specifically, for a flocked substrate, the average length of the flock fibers is the length of said fiber exposed above the substrate plus the length of said fiber embedded in said substrate (i.e., adhesive). Thus, even if an encapsulant is added to a flocked substrate to a thickness equal to the length of fiber exposed above the substrate, the average fiber length is inevitably greater than the thickness of the encapsulant, which only covers the length of the fiber exposed above the substrate. Additionally, the polymeric encapsulant, when dried or cured, will inherently exhibit some shrinkage. For example, it is well-known in the polymer arts that the thermoset encapsulants exemplified by Koon '707 (i.e., silicon, polythioether, and polyurethane) will inherently shrink upon curing. As such, even if said encapsulant is added to the flocked substrate at a thickness equal to the length of the fiber exposed above the substrate, upon curing, said encapsulant would shrink to a degree, thereby leaving the fiber tips exposed above the encapsulant. Thus, the Examiner reasserts that the combination of Koon references inevitably teaches the present claim limitations of independent claims 32, 35, 37, 42, 45, 46, and 48, regarding fiber length and encapsulant thickness.

### ***Conclusion***

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after


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the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Cheryl Juska whose telephone number is 703-305-4472. The Examiner can normally be reached on Monday-Friday 10am-6pm.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Terrel Morris can be reached on 703-308-2414. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.



**CHERYL A. JUSKA**  
**PRIMARY EXAMINER**